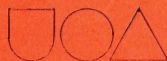


Final Visual Presentation
for the degree of
Master of Visual Arts

*Visual Communication
Design*

Elise Johnson

1983



THE UNIVERSITY OF ALBERTA

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DATED May 11



THE UNIVERSITY OF ALBERTA

FINAL VISUAL PRESENTATION
ANALYSIS AND PRESENTATION
OF ANIMATION PROCEDURES

by

ELISE JOHNSON

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF VISUAL ARTS


IN

VISUAL COMMUNICATION DESIGN

DEPARTMENT OF ART AND DESIGN

EDMONTON, ALBERTA

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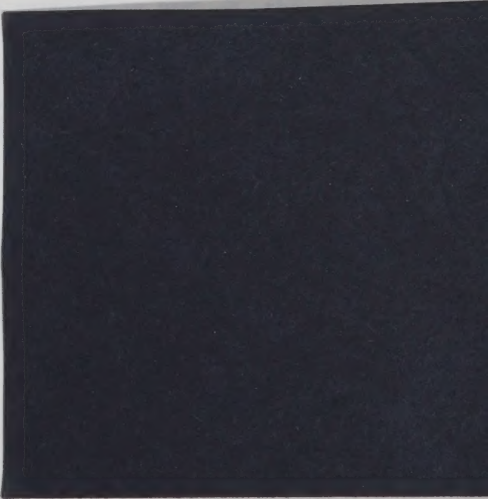
THE UNIVERSITY OF ALBERTA
FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and
recommend to the Faculty of Graduate Studies and Research, for
acceptance, a thesis entitled:

FINAL VISUAL PRESENTATION

submitted by L.Elise Johnson
in partial fulfilment of the requirements for the degree of
Master of Visual Arts.

Date 25 / November / 1982



THE UNIVERSITY OF ALABAMA
SCHOOL OF GRADUATE STUDIES AND RESEARCH

The undersigned hereby certifies that the work herein
submitted to the Faculty of Graduate Studies and Research, for
recognition, is his own work;
THOMAS V. JONES

Submitted by
in partial fulfillment of the requirements for the degree of
Master of Social Work.

.....
March 1, 1952

LIST OF VISUAL MATERIAL

Videotape

Contents

1. "Dobryden" - Ukrainian for Young Learners
Pilot program by ACCESS Alberta

First prize winner of Alberta Motion Picture Industry
Award for Best Educational Program

Credit List:

Producer/Director	Peter McLean
Project Manager	Michele Spak
Production Assistant	Lynn Gillis
Art Director	Shannon Cebryk Kally
Animator	Elise Johnson
Audio	Nelson Klymochko
Music	Eugene Zwozdesky
Ivan	Peter Lukomskyj
Halya	Natalka Freeland
Voice of Romko	Roman Brytan
Voice of Pivnyk	Roman Brytan
Voice of Lysychka	Lydia Slabyj

Note on Animation:

The segments of this program animated as part of the thesis presentation for the degree of Master of Visual Arts are as follows:

- Scene 1 Program Opening and Title "Dobryden"
(Pivnyk, sunrise, crow, title)
- Scene 2 Romko Robot comes to earth
(4 backgrounds for approach through space)
- Scene 3D Dobryden song
(Pivnyk introduces himself)
- Scene 3H Dobryden song
(Pivnyk and Lysychka introduce themselves)
- Scene 12 (Pivnyk grabs Lysychka's headdress)
- Scene 15 (Pivnyk returns headdress to Lysychka;
Lysychka steals a tail feather)
- Scene 18 Plasticine animation of sunflowers
(numbers 1, 2, 3; sunflowers form and dance Hopak Kolom)
- Scene 21 Program Closing
(Pivnyk says goodbye and turns out sun [Sontse])

Note of thanks to assistants:

Inking Assistant: Richard Titus

Painting Assistants: Richard Titus, Susan Menzies, Gordon
Clover, Susan Crandall, Yvonna Christiansen and Jane
Molnar

Further thanks to Yvonne Christiansen for animation of shots 1
and 2 of Scene 21 (winding of clock and setting down
of clock)

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Music by Jan Randall

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Analysis and Presentation of Animation Procedures

Introduction

In the interest of adding the dimensions of movement and time to two-dimensional illustration, experimentation was undertaken in various animation techniques. This included a short film combining manipulation of cut-outs and type with the formation, dissolving and transformation of drawings, and a short film in backlit sand animation which was synchronized with a sound track to illustrate a song. These films concentrated on the quality of drawing and, while successful visually, evinced a need for further research and practice in the areas of movement analysis, pacing and continuity in scene changes. Further experimentation was undertaken with various media such as cel animation and plasticine animation with the focus being on movement analysis. Having chosen plasticine as the medium in which experimentation with motion and the timing of actions was most quickly and inexpensively done, it was decided to attempt another film. This film was done in collaboration with another graduate student in accordance with her thesis involving teaching aids for deaf children and did not require a sound track. It was successful as an exercise in the animation of actions but showed a need for further development in the areas of pacing of a scene, scene transitions and continuity.

It was evident that a thorough understanding of film as a composite medium was necessary before undertaking a project which was to have any creative force. This decision was followed by extensive reading, concentrating on the building of a film as a whole, regardless of whether

it was to be drawn or photographed live. It was decided that the next project should be an attempt to create a film that worked as a whole, controlling all the elements of a film: the layout, acting, actions, clarity, pacing, scene transitions, continuity, lip synchronization, and synchronization of sound. The ability to control the medium had to be refined before any attempt could be made at transforming a visual idea into a working film of any quality or definitive style.

At this point the opportunity of working with other people came with an offer from ACCESS Alberta. They wanted animated elements in an educational program and it was felt to be a beneficial opportunity at this time to work with a specific concept rather than the infinite possibilities which distract the beginner from creating a cohesive statement. Working with others would also facilitate quality in the areas of sound recording and film processing, and generate feedback on the making of a useable product.

The ACCESS Project

Series title: "Dobryden"

Summary:

The assignment with ACCESS initially involved two pilot programs for a projected 13-part series in the Ukrainian language to be used for grade one students in immersion or bilingual (Ukrainian/English) school settings. The programs are meant to underline vocabulary, understanding of grammatical and syntactic elements, and to aid in the general

comprehension of the language as different ideas, concepts, problems and cultural situations are presented. The programs will develop both the receptive (viewing, listening, auditory discrimination, comprehension) and the expressive (speaking and acting) areas of language. Each program will contain a number of segments that will feature puppets, animation, live action and music. Active participation will be strengthened in games and drills that will be included in the teacher's guide, as well as with the use of support material.

Animation elements for the "Dobryden" series:

The animation elements required for the series include work with two main characters who will be used throughout the series, sequences in plasticine and in line which will be used to illustrate specific words, and illustrated backgrounds to be used with some live action characters.

Aspects of the work entirely controlled by ACCESS:

Script (content, choice of characters, their main actions, their dialogue, the music and sound effects, the setting of the scene, the approximate length of the scene, the placement of the scene and the type of scene transition).

The cultural elements (design of buildings, costumes and some specific items included in a setting or scene, as well as some specific activities characteristic of traditions in Ukrainian children's literature).

Editing (the insertion of the final animation into the program).

Aspects of the work controlled by the animator but subject to the approval of ACCESS:

Design of the characters (their characteristics, mannerisms, appearance, personalities; secondary actions and type of movement).

The story board (the breaking down of the sequence in the script into shots or scenes; the design of the shots and scenes).

The composition (the layout of the scenes; the framing of the scenes; the pacing of the scenes and sequences; the choice of camera movements; the continuity within a sequence; the focus of a scene; the colour, style and composition of all elements).

Pacing (the breakdown, timing and spacing of sound elements within the scene; the adjustment of the story board elements to the timing of the soundtrack; the editing and continuity with the sequence).

Animation (the animation of the sequences; testing of the animation and synchronization).

Production (the backgrounds; selection of inks and paint; the breakdown of the animation into elements for the production of cels; the production of cels in ink and paint from the drawings and supervision of inking and painting assistants; the collation of all materials to be filmed).

Filming (the filming of the sequences).

Analysis of Animation Procedures

Procedure:

1. Script
2. Character Development
3. Story Board
4. Sound Recording
5. Sound Reading
6. Editing--The Dope Sheet
7. Design and Layout
8. Animation
9. Pencil Test
10. Backgrounds
11. Inking
12. Painting
13. Checking
14. Filming
15. Checking
16. Editing Picture and Sound
17. Answer Print or Video Tape

1. Script

Reading, discussion, and analysis of the concepts in the script.

2. Character Development

The two main characters to be used throughout the series are a rooster and a fox.

The character outlines provided were as follows:

PIVNYK (rooster)

- male
- rather high strung, subtly arrogant, egotistical, proud, well-groomed, good-looking
- about 2 feet tall
- very colourful
- in Ukrainian costume

LYSYCHKA (fox)

- female
- about 2 1/2 feet tall
- walks on hind legs
- mischievous, sly, sneaky, rather pretty and has long curly eyelashes
- always has a playful smile
- she is a beautiful reddish-brown colour with a whitened face
- in Ukrainian costume

Procedure:

Research: Reading and visual studies of the appearance, mannerisms, and behavioral characteristics of foxes and the domestic fowl.

Sketches: Quick studies making the transition from the real creature to the anthropomorphized character in costume.

Character Sheets: Sketches of the characters showing their appearance and some mannerisms from several views as models for future

references. Also defined are size relationships of parts of a character as well as the scale relationship of one character to another.

Model Sheets: Examples of the characters in their final design, including all details and colours, for future reference and control.

Choice of medium:

At the time of the initial agreement to work on this project, the animation medium for the main characters was undecided. Three-dimensional figures were considered but rejected because of the comparison with puppets used in other sequences. Cel animation was chosen. The technique originally intended was the use of coloured pencil on frosted cels. It was later found that the expense of cleaning the cels and the time needed by one person to maintain control of all the lines made this choice unsuitable. The switch to paint, although changing the visual characteristics of the characters to a simplified form, was considered to be of sufficient visual quality for the needs of this project. It also permitted the use of assistants to complete the cels. With paint, the animator can maintain complete control over the product even while others work on the cels as the process becomes completely mechanical. The cels are made by tracing on celluloid in ink directly from the drawing and the outlined areas filled in with paint. Each outlined area is assigned a specific colour which is pre-mixed to assure consistency. No fluctuation of colour or handling will occur. In scenes where side-lighting is necessary, the frosted cel technique will be retained, although airbrush, paint without inked delineation or other methods would achieve a comparable effect. As these methods result in

delineating the form without area outlines, they must be done by the animator or controlled by a single hand.

3. Story board

The story board is a visual precis of the script, presenting the idea in graphic shorthand. At this stage, the story board should be fluid enough to allow for change and refinement but should also give a clear idea of the conception of a scene. It should clearly indicate the shape and style of the film or sequence, its choreography, and its motion continuity. The story board is concerned not only with key visuals but with the phrasing of the action, the continuity, the dialogue and the sound which will eventually exist together both visually and aurally and in time as well as in space. The story board should clearly translate the script into visual terms that are readily understood, to anticipate the effects of the finished animation. It is, however, only a broad outline and the needs of the real animation should take priority in demanding any change.

4. Sound recording

Due to the amount of work involved in the drawing of the animation, every frame cut in the editing is lost effort. For this reason, the editing is completed as far as possible before the actual animation is done. When working with synchronized dialogue and action paced to music or sound effects, strict control is needed over the relationship between the visual track and the sound track. Visual editing is to some extent

achieved in the story board but the pacing, rhythm, intervals, and accents of the sound must be worked out frame by frame for the visuals to individually correspond to them.

The choice of a voice is carefully considered as this is the first actualization of the character. The actor doing the voice must understand the character and the character must be able to respond to the personality and feeling of the voice. The music must also relate to the concept, pace and atmosphere of the scene, in the same way that the scene and the action must relate to the sound. To achieve control of these relationships, all of the main sound elements are recorded before animation is begun.

5. Sound reading

The recording is transferred to magnetic sound stock which is of the same size as the film stock and perforated to match the frames of the film. This is read on a synchronizer which has sprocketed wheels to fit both film and magnetic tape, a sound head, a speaker and a frame counter. It is possible to ascertain the frame-by-frame position of any element on the soundtrack. Dialogue may necessitate a frame number for each articulation or syllable, while music requires notation of the duration, tempo, accent, beat, or all of these. Some sound effects and music can be added later if frame-by-frame accuracy is not required. All of the sound information is noted on a bar sheet for clear charting.

6. Editing and Dope Sheets

The sound elements of dialogue, music and sound effects are transferred from the bar sheet to a chart called the dope sheet. The dope sheet is the master film script which eventually delineates and aligns all the film elements (action, sound, dialogue, order and number of drawings, movement of the backgrounds, camera movement, camera effects and exposures) into a detailed frame-by-frame guide to the whole film.

The sound information from the bar sheets is transferred to the dope sheet, organized, categorized and edited to fit the duration of the scene. Much of the sound can be accommodated as it is but some, such as dialogue, may have to be spaced to allow for accompanying action. Dialogue, music, and effects, if recorded on separate tracks, may be offset or mixed so as to allow time, space, or juxtaposition to enhance the action and the pacing of the scene. When the sound has been edited to fit the dope sheets, and conversely, the dope sheet edited to fit both aural and visual concepts of the pace, the animation can begin.

7. Design and Layout

Before animating the movement of the characters, the visual elements of a scene which affect that movement should be defined. These include the objects and areas contained in the background which are open to free movement; objects which the character is to look at, use or physically relate to; the design of background shapes and forms the character will pass in front of in a changing composition; and the extremes of the field of view, in which the character is to perform. When the film is being

made specifically for transfer to videotape, the television cut-off area, rather than the projection area, is considered to be the field of view.

8. Animation

The animation is paced in accordance with the timings charted on the dope sheets. It is done in pencil first to allow for adjustments and thorough testing of action, pace, rhythm and synchronization with the other elements of the film. The animator may work by animating key poses (filming them to check for pace before filling in the "in-between" positions) or straight ahead from drawing to drawing in sequence. Before animating an action the animator times it, acting it out before a mirror, using a stop-watch or metronome, or employing whatever method of study is needed to analyze the movement, the personality traits, emotions or concerns of the character as well as any secondary motion caused by the activity involved. The animator may be drawing, but what is really doing is acting, creating a whole character within a role as well as designating that character's form. The animator must also relate the movement of the character to any other characters, their interaction and scale relative to one another, the design and layout of the scene, the pace and mood of the scene, and the accents and individual elements of the sound.

9. Pencil Test

When the scene has been animated in pencil, it is filmed in what is called a pencil test. The pencil test is viewed to check the working movement of the visual elements and run in conjunction with the sound

track to check synchronization of the dialogue, music and sound effects. The drawings are adjusted and re-worked until the test is refined into a pencil version of what the animation will be in the final film. All elements must work together before the drawings are transferred to cels and painted.

10. Backgrounds

Prior to the painting of the cels, the backgrounds should be completed. This ensures accuracy in the joining of elements on the background to the figures or elements on the cel overlays. To save redrawing and painting, portions of the figures on the cels which move behind elements on the background are cut off along the edge of the background object. As this cut off line must match exactly, the final background is preferable for a good "match line." The final positions and scale of objects used are necessary so that the character on the overlay appears to actually use it. The colours and style of the background must also work with the overlays. The colour values and saturation must, however, be chosen according to the affect of the number of cel overlays which can darken and intensify the background colours considerably.

11. Inking

The use of cels (sheets of transparent acetate) allows for repeated use of some drawings or portions of drawings as well as making it unnecessary to redraw the background for each different position of a

character. Portions of a character which do not move can be held on one level of cel whilst the movement continues on another level. All drawings, cells and backgrounds are registered on pegs which ensure control of their relationship to each other.

To ink a drawing onto a cel, the drawing is placed on the pegs with a cel over it. The portions of the figure which do not move are traced on one cell and those which do move on another. Portions which move, but at a different rate, may be inked on yet another. Match lines are again carefully inked so that the composite image makes a convincing whole.

Most action is drawn on "twos" (two frames of film exposed for one drawing) but some faster action changes every frame ("ones") while very fast action may include several positions on a single frame. As every area inked must be painted, a great deal of work may be saved by the assignment of areas to different levels. Portions needed for multiple frames may be re-used if they have been isolated onto a separate level. As the number of cel levels must remain consistent throughout a scene, blanks may be used to maintain the density when no portion has been assigned to a particular level.

12. Painting

Painting may be purely mechanical in the cel technique but it requires great care. The areas delineated by the inked outline must be filled in with paint with care for match lines and cel level. The paint for any particular level is chosen beforehand and mixed in sufficient quantity to paint that area throughout the entire sequence to avoid uncontrolled colour fluctuation. Ideally, the paint for any given area

is mixed in several tints which compensate for the differing cel levels. As the density of each level of acetate darkens the colour, the paint should be graduated in tints for each level so that an arm, for example, of the same colour as a torso on a lower level does not appear radically lighter in colour. Gloves may be worn in both inking and painting in order to keep the acetate clean and free of grease.

13, 14, and 15. Checking, Filming Workprint, Checking

When the cels and background are completed they are checked by laying each set of levels comprising a shot together with the background to ensure that they make an accurate composite image. They are cleaned and arranged in the order which is indicated on the dope sheets.

The collated cels, the backgrounds and the dope sheets are then taken to the camera and a workprint is shot as charted on the dope sheets. The film is processed and a final check is made to see that all visual elements work together.

16 and 17. Editing Picture and Sound, Final Print

If the visual elements are acceptable, the film is edited with the sound and synchronized to form the composite of visual, sound and time elements which together make a film. If it works as a whole, a final (answer print) is made as a master for duplication or if, as in this project, the film was made for transfer to video, a master videotape.

